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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,468	08/21/2003	David Donald Haynes	DCS 8705US	7998

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EXAMINER	
BETZ, BLAKE E	
ART UNIT	**PAPER NUMBER**
2672	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/645,468	HAYNES, DAVID DONALD	
	Examiner	Art Unit	
	Blake E. Betz	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-19 and 21-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-19 and 21-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claims 2 – 6 and 20 – 24 is withdrawn in view of the newly discovered reference(s) to Sams Teach Yourself Microsoft Excel 2000 in 24 Hours and Sams Teach Yourself Microsoft PowerPoint 2000 in 10 Minutes. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3 – 5, and 11 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG PUB No. 20040021687 to Wobben in view of Sams Teach Yourself Microsoft Excel 2000 in 24 Hours and Cease et al.

In regard to claim 1, Wobben teaches of a method for displaying the operating conditions of a wind power installation in a graphic display. Paragraph 11, lines 9 – 14, states, "Finally a symbol is specified in an overview such as for example a geographical

map (for example a map of Germany) for each installation or a group of installations, in which case the nature of the installation and the operating status of the respective installation or a group of installations can be derived from the symbol." Figure 2 shows a display of the invention in which various symbols are used to represent separate segments of a network of installations. Paragraph 12 discloses the meaning of the different symbols used to display the performance characteristics of the installations to an observer of the graphic display. "Thus for example a symbol such as a green circle can signify that the installation is a wind power installation which is (serviceable) in operation while a symbol such as a red circle indicates that the installation is out of operation. The symbol of a red-green circle (a red semicircle and a green semicircle are put together to form a circle) can indicate that the installation is admittedly basically serviceable but is switched off by virtue of maintenance operations." Thus by using a system of green, red, and red-green circles, an observer is able to determine whether operations within the network are acceptable, if there is a problem, where it is occurring, and the magnitude of the problem such as if an installation is switched off due to maintenance operations or if it is out of operation. Furthermore, Paragraphs 44 – 46 teach that other graphical representations may be used to present the network data such as a tabular view based on statistical assessments. Wobben, however, fails to disclose monitoring transmission segments within the network. Cease et al. discloses a system of phasor measurement units employed throughout the TVA power system that are able to monitor the voltage and current at their position in the system. Page 4, first and second paragraphs under the heading "System Placement", describes placing the measurement units at certain buses (service paths) in order to monitor the TVA system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Wobben to include monitoring and displaying the results of the characteristics of service paths within the network. One would have been motivated to make such a modification to Wobben so that the system for monitoring the health of power stations and their interconnections may be more comprehensive in their evaluations and generated performance display. Wobben additionally fails to disclose displaying the information with a three-dimensional display in which one axis represents locations within the network segment, a second axis representative value of the performance characteristic, and the third axis periods of time. Sams Teach Yourself Microsoft Excel 2000 in 24 Hours (further referred to as Microsoft Excel) gives an overview of the functions available to a user of Microsoft Excel 2000. Pages 222 – 225 describe the different types of charts and options available for displaying data from a worksheet. These charts may also be displayed in a three-dimensional format such that the information represented by the x, y, and z-axes may be determined by the user. Paragraph 22 of Wobben states that data measured from the power installations is transmitted to a central data processing station and processed there. Thus, by running the Microsoft Excel program on the central database, the transmitted data may be processed in the data worksheets and displayed by the 3D charts according to the Excel program. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the Microsoft Excel program for data processing and three-dimensional data display, allowing each of the axes to be defined as desired such as network locations, performance characteristics, and time. One would have been motivated to make such a modification to the invention

of Wobben so that as stated on Page 224 of Sams, a 3D chart display may help a user distinguish between different sets of data. Furthermore, by representing the data on a graph such that the locations within the network segment (power installations), performance characteristics (power output data, wind data and temperature data), and time are each represented by an axis, the overall health of the network may be easily ascertained by viewing both the present and past value characteristics of the segments.

In regard to claim 3, the same basis and rationale for claim rejection as applied to claim 1 is applied. Wobben in view of Cease et al. and Microsoft Excel teaches of the ability of the user to designate the information represented by the various axes in a 3D chart as described above. Therefore, the service paths within the network segment may additionally be represented on an axis of the 3D chart.

In regard to claim 4, Paragraphs 11 and 12 of Wobben describe displaying current data about the network on a terrain map of Germany as shown in Figure 2. Furthermore, Paragraph 15 discloses displaying data representing, "the operating times of a given past period of time, for example the past month, the last year and so forth, so that the person viewing it also has a highly informative picture about the reliability of an installation." Thus, Wobben includes additionally displaying historical as well as current information about the network to monitor and improve the quality of service within the network.

In regard to claim 5, Paragraph 16 of Wobben teaches of constantly updating the acquisition of operational data for displaying a continuously updated map. Paragraph 40 further teaches of producing up-to-date operational information on a map/overview to a viewer. As stated by Wobben, "The person looking at the map/overview can see

therefrom, how reliable (or how unreliable) the installations of a given manufacturer/operator generally are and can form therefrom a judgment about the quality of the installations." Thus, a plurality of updated displays comprising a terrain map, as shown in Figure 2, are continuously provided to the user to monitor and improve the quality of service within the network.

The method of claims 11 and 12 are disclosed by the invention of Wobben, Cease et al., and Microsoft Excel. Figure 2 shows a graphic display in which various installation segments of the electrical distribution network are included in the same display. Paragraph 31 includes the function of producing a separate display from the original display of the multiple segments to provide information about a particular installation. "By touching the symbol of an installation or a wind park with a pointer such as for example a mouse pointer or by clicking or double clicking on the symbol, it is possible to display further selected, openly available items of information about the installation or the wind park." Thus, information from the entire network is combined to produce an overall graphic display wherein separate displays are made available to a user for the viewing of information of a particular installation segment.

In regard to claims 13 and 14, the same basis and rationale for claim rejection as applied to claim 1 is applied. As described above in the rejection of claim 1, Paragraph 12 of Wobben teaches of using symbols to display the performance characteristics of the installations to an observer of the graphic display. Additionally, the symbols are color-coded to identify particular types of incidents that occurred at particular locations to facilitate interpreting the display.

The method of claim 15 is disclosed by the invention of Wobben, Cease et al., and Microsoft Excel. Sams describes the functionality of Microsoft Excel 2000 on Page 237 for rotating a 3D chart display such that the view of the chart may be oriented according to the desire of a user. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Wobben to include rotating the terrain map about any of its axis. One would have been motivated to make such a modification to Wobben so that a user viewing the map may be able to manipulate the orientation of the layout and view hidden or obscured data.

The method of claims 16 and 17 are disclosed by the invention of Wobben, Cease et al., and Microsoft Excel. Paragraph 13 describes electronically storing information from the graphical display and allowing users to access the information via the Internet. "The overview provided in that way can identify various kinds of installations and is constantly updated, stored in the form of an electronic file and made available in an information network, for example an Internet network, and made available for being called up by way of an Internet domain address, for example by way of the address of the installation manufacturer." Thus, the stored information can also be displayed at more than one viewing location through transmission of the information over an information network.

The method of claim 18 is disclosed by the invention of Wobben, Cease et al., and Microsoft Excel. Paragraphs 15 and 16 of Wobben discuss displaying data on the graphic display representing various periods of time. Additionally, a continuously updated map allows users the ability to view the serviceability of installations on the display. "It is also advantageous not only to associate still further data with an operating

site of an installation but also to already represent it on the map. Such data can be for example the operating times of a given past period of time, for example the past month, the last year and so forth, so that the person viewing it also has a highly informative picture about the reliability of an installation. Thus, by virtue of the constantly updated acquisition of operational data, it is possible by way of a network such as for example the Internet for anyone to obtain online a continuously updated map which also shows the viewer the serviceability of a plurality of installations in a given geographical area, and this is always on an up-to-date basis (or up-to-date in the context of a day or a week)." Thus, the display is periodically updated to include information for another predetermined period of time.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG PUB No. 20040021687 to Wobben, Sams Teach Yourself Microsoft Excel 2000 in 24 Hours, and Cease et al. as applied to claim 5 above, and further in view of Sams Teach Yourself Microsoft PowerPoint 2000 in 10 Minutes.

In regard to claim 6, Wobben teaches of a plurality of displays as discloses in claim 5 such that the terrain map is continuously updated for producing up-to-date operational information to a viewer. Paragraph 15 of Wobben discloses that additional data may be displayed so that a viewer may ascertain the reliability of an installation. However, Wobben as modified in claim 5 does not teach of arranging the terrain maps in a loop of maps such that a user traversing through the loop may obtain information about the quality of network performance over time. Page 148 of Sams Teach Yourself Microsoft PowerPoint 2000 in 10 Minutes (further referred to as PowerPoint) teaches that graphical charts may be inserted into slides for presentation. Page 173 further

teaches that a slide show may be set to continuously loop through its contents. Thus, by inserting each of the up-to-date charts of Wobben onto a separate slide, the history of terrain maps may be arranged to loop through the series of maps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Wobben to include arranging a loop of maps onto a group of slides and continuously loop through the slides as taught in PowerPoint. One would have been motivated to make such a modification so that a user trying to ascertain the reliability of an installation, as mentioned in Paragraph 15 of Wobben, by viewing successive time frames of the monitored network.

Claims 7 – 10, 19, and 21 – 23, and 25 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG PUB No. 20040021687 to Wobben, Sams Teach Yourself Microsoft Excel 2000 in 24 Hours, and Cease et al. as applied to claim 1 above, and further in view of U.S. Patent No. 6,026,145 to Bauer et al.

The invention of Wobben, Cease et al., and Microsoft Excel discloses the methods of claims 7 and 8 except in which monitoring a segment of the network includes counting customer complaints regarding problems within areas of the network segment and counting the occurrences of power outages within the network segment. Wobben, as stated in the rejection for claims 1, 11, and 12, discloses determining a power outage of an installation segment in a graphic display and displaying the segment in a color-coded symbol. Bauer teaches of a method and apparatus for fault segmentation in a telephone network. Bauer includes the use of trouble reports and complaints from customers to narrow the possible locations for failures in the network. A trouble history analyzer is also included to take into consideration past complications

and problems for finding faults in the network. Column 15, lines 15 – 24, of Bauer describes a black spot analyzer which performs the function of incorporating customer complaints to determine the location of a failure in the network. Lines 38 – 49 describe the trouble history analyzer. Lines 52 – 59 describe using the black spot and trouble history analyzers, "Rule based classifier 356 is preferably another rule based expert system. It is programmed with rules to make predictions about failure locations based on the conclusions drawn by footprint analyzer 350, black spot analyzer 352 and trouble history analyzer 354 and based on information about the current line, including footprint information, cable data and historical failure information." It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Wobben to include counting customer complaints regarding problems within areas of a network segment as shown in Bauer. One would have been motivated to make such a modification to facilitate the locating of faults in the monitored network and further monitor the health of the network system through the use of customer complaints. It would have additionally been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Wobben to include counting the occurrences of power outages with the network segment as performed by the trouble history analyzer in Bauer. One would have been motivated to make such a modification such that particularly trouble prone network segments may be more closely monitored so as to facilitate the locating of faults in the monitored network. Additionally, by determining the locations within the network where power outages historically occur, preventative measures may be taken to alleviate the problem.

The method of claim 9 is disclosed by the invention of Wobben, Cease, Excel, and Bauer. Paragraph 41 of Wobben discloses that data relating to the total amounts of energy delivered by the installations may be specified by the display. "Besides the functional or operating data of the installations, it is also possible to specify, in relation to each installation, the wind data and/or the operating data of the individual installations or the data relating to the total amounts of energy delivered by the installation." Cease et al. discloses a system of phasor measurement units employed throughout the TVA power system that are able to monitor the voltage and current at their position in the system. Page 3, second paragraph, states, "The data concentrator can also be configured to return the actual voltage at the PMUs real panel input, or as an actual line voltage or current if the appropriate pt or ct ration or shunt resistances are provided the data concentrator." It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Wobben to include measuring line voltages at locations within the network as done by Cease. One would have been motivated to make such a modification so that further information regarding the operation of an installation, such as the line voltages, may be available during the monitoring of the energy delivered the installation, allowing the health and properties of the network to be more fully scrutinized.

The method of claim 10 is disclosed by the invention of Wobben, Cease, Excel, and Bauer. Paragraph 2 of Wobben states, "It is known that the operating behaviour of an installation can be continuously detected and the detected data can also be made available to the operator of the installation. If for example the operator of an installation has a suitable telecommunication device (for example a modem), he can obtain

information about all relevant data of his installation, for example whether it is in operation, the output power with which it is operating at the present time or whether there is a fault, and if so, what the reason for the fault is, and so forth." Thus, the information about the installation segment is obtained using a two-way communications system via a modem.

In regard to claim 19, the same basis and rationale for claim rejection as applied to claims 1 and 8 are applied. As stated in the rejection of claim 1, Wobben, Cease, and Excel disclose a method of providing a graphic display of an electrical distribution network to provide network personnel insight as to network operation wherein a plurality of network segments are monitored to obtain information about predetermined types of incidents occurring within each respective segment. These incidents are represented by a plurality of different symbols and color-codes on the display. Figure 2 shows a graphic display for monitoring a plurality of installation network segments to obtain information about predetermined types of incidents occurring within each respective segment. Furthermore, Wobben as modified in claim 1 includes a three-dimensional display in which one axis represents locations within the network segment, a second axis the number of incidents that occurred, and the third axis periods of time. Paragraph 40 of Wobben states that the display can be produced in an updated fashion according to a defined time period. "The respective maps or overviews can be produced by virtue of continuous operating data acquisition in up-to-date fashion, that is to say with the up-to-dateness of a day or less but also with the up-to-dateness of a week. The person looking at the map/overview can see therefrom, how reliable (or how unreliable) the installations of a given manufacturer/operator generally are and can form

therefrom a judgment about the quality of the installations." Thus, the display includes the number of and where incidents are occurring within the network in that each incident is represented on the display by a color-coded symbol. However, Wobben, Cease, and Excel fail to include processing the information of a plurality of network segments to ascertain the number of incidents which occur over a predetermined period of time and displaying the results in a graphic format. The invention of Bauer includes the use of trouble reports and complaints from customers to narrow the possible locations for failures in the network. A trouble history analyzer is included to take into consideration past complications and problems for finding faults in the network. Column 15, lines 15 – 24, of Bauer describes a black spot analyzer which performs the function of incorporating customer complaints to determine the location of a failure in the network. Lines 38 – 49 describe the trouble history analyzer. Lines 52 – 59 describe using the black spot and trouble history analyzers, "Rule based classifier 356 is preferably another rule based expert system. It is programmed with rules to make predictions about failure locations based on the conclusions drawn by footprint analyzer 350, black spot analyzer 352 and trouble history analyzer 354 and based on information about the current line, including footprint information, cable data and historical failure information." It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Wobben to include processing the number of problems within areas of a network segment as taught in Bauer and include them in the display. One would have been motivated to make such a modification such that particularly trouble prone network segments may receive closer surveillance so as to facilitate the locating of faults in the monitored network. Additionally, by determining

the locations within the network where problems historically occur, preventative measures may be taken to alleviate future problems and responses to occurring problems may be accelerated.

In regard to claim 21, the same basis and rationale for claim rejection as applied to claims 3 and 19 are applied.

In regard to claim 22, the same basis and rationale for claim rejection as applied to claims 4 and 19 are applied.

In regard to claim 23, the same basis and rationale for claim rejection as applied to claims 5 and 21 are applied.

In regard to claim 25, the same basis and rationale for claim rejection as applied to claims 13 and 19 are applied.

In regard to claim 26, the same basis and rationale for claim rejection as applied to claims 14 and 25 are applied.

In regard to claim 27, the same basis and rationale for claim rejection as applied to claims 15 and 25 are applied.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG PUB No. 20040021687 to Wobben, Sams Teach Yourself Microsoft Excel 2000 in 24 Hours, Cease et al., and U.S. Patent No. 6,026,145 to Bauer et al. as applied to claim 23 above, and further in view of Sams Teach Yourself Microsoft PowerPoint 2000 in 10 Minutes.

In regard to claim 24, the same basis and rationale for claim rejection as applied to claims 6 and 23 are applied.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG PUB No. 20040021687 to Wobben in view of Cease et al.

In regard to claim 28, Wobben teaches of providing a graphic display of an electrical distribution network to provide insight into network operations. As can be seen in the display of Figure 2, Wobben includes displaying the information of a network of power installations along with color-coded symbols signifying whether operations within the display are acceptable, and if not, where the problem is occurring and the magnitude of the problem. However, Wobben does not teach of monitoring line segments within the network and processing the information to ascertain relative performance characteristic values within different portions of the line segments. Cease et al. discloses a system of phasor measurement units employed throughout the TVA power system that are able to monitor the voltage and current at their position in the system. Page 4, first and second paragraphs under the heading "System Placement", describes placing the measurement units at certain buses (service paths) in order to monitor the TVA system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Wobben to include monitoring the results of the characteristics of service paths within the network as in Cease et al. and display these according to the symbol methodology as taught in Paragraphs 12, 27, and Figure 2 of Wobben. One would have been motivated to make such a modification to Wobben so that the system for monitoring the health of power stations and their interconnections may be more comprehensive in their evaluations and generated performance display. Furthermore, Paragraph 15 of Wobben states that

historical information may also be displayed so that a viewer may be better able to ascertain the reliability of the installations in the network.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blake E. Betz whose telephone number is (571) 272-7655. The examiner can normally be reached on 7:30 - 4:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BB

BB 7/21/05

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